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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/758,028

01/14/2004

Wha Sook Jeon

HLQ-006RCE

6163

959 7590 10/16/2008

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EXAMINER

HOUSHMAND, HOOMAN

ART UNIT

PAPER NUMBER

2419

MAIL DATE

DELIVERY MODE

10/16/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/758,028 | Applicant(s) JEON ET AL. | |
| | Examiner Hooman Houshmand | Art Unit 2419 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-12, 33-36, 38-41, 43 and 45-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-12, 33-36, 38-41, 43, 45-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/12/2008 has been entered.

Response to Amendment

2. The amendments and accompanying remarks, filed on 08/12/2008, have been entered and fully considered. Claims 1, 8-10, 33, 38, 39, 43 and 45-47 have been amended. Claims 1-6, 8-12, 33-36, 38-41, 43 and 45-47 are now pending.

3. The amendments to claim 1 have overcome the 35 U.S.C. 112, second paragraph rejection; therefore, the 35 U.S.C. 112, second paragraph rejection has been withdrawn.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6, 8-12, 33-36, 38-41, 43, 45, 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denkert (USP 6374117), in view of Chen (USP 5982760).

Regarding **Claim 1**. Denkert teaches *a power allocation method* (power control col 2 line 40) *for providing a packet data service* (wireless packet data systems col 3 line 15) *with a line service* (voice application col 2 lines 7-8) *in a mobile communication system* (cellular communication system col 1 lines 14-15) *having a base transceiver station* (col 4 line 19) *for performing wireless communication* (wireless network col 4 line 49) *with a mobile station* (620 col 7 line 8) *and a base station* (610 col 7 line 8) *controller for controlling the base transceiver station* (col 4 line 19), (a) *checking whether or not packet data traffic is generated* (base station 610 handles a plurality of packet data channels col 7 lines 19-20); (b) *if it is checked and the packet data traffic is generated in the step (a)* (prioritizing data packet for transmission col 3 lines 30-31), *checking whether or not there is the mobile station making use of a line service where a current call is in progress* (utilizing real time voice application col 2 lines 7-8); (c) *if it is checked and there is the mobile station making use of the line service where the current call is in progress, checking whether or not there is the mobile station making use of the packet data service where the call is currently in progress; and (d) if it is checked and there is no mobile station making use of the packet data service where the current call is in progress, gradually increasing power transmitted to the mobile station* (power control is used to adjust operations of the communication system col 2 lines 40-41, Transmit

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power is ramped up to control link quality col 2 lines 45) *making use of the packet data service* (wireless packet data systems col 3 lines 7-8),

the increased power is in a remaining power other than the power allocated to the line service (power control is used to adjust operations of the communication system col 2 lines 40-41, Transmit power is ramped up to control link quality col 2 lines 45).

if new packet data traffic is generated (wireless packet data systems col 3 line 15) *after it is checked that there is no mobile station making use of the packet data service where the current call is in progress* (voice application col 2 lines 7-8), *the control section controls the power section* (power control col 2 line 40) *to gradually increase power transmitted at each slot time* (time slot in the downlink col 1 line 53) *for a period of time to a mobile station which generates the new packet data traffic* (power control is used to adjust operations of the communication system col 2 lines 40-41, Transmit power is ramped up to control link quality col 2 lines 45) *which it takes a signal-to- interference ratio* (carrier-to-interference ratio col 2 lines 38-39) *of the mobile station to be restored to an original value* (QoS level col 2 line 32) *thereof when the power allocated to the mobile station making use of the line service is changed* (power control used with C/I targets to ramp transmit power up or down for each link to control link quality col 2 lines 43-45) (Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54).

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Denkert does not explicitly teach *waiting for end of packet transmission when a voice call is in progress, then increasing transmission power*.

In the same field of endeavor, Chen teaches *waiting for end of packet transmission when a voice call is in progress, then increasing transmission power* (Packets of data are transmitted as discrete frames, when a frame is erased, packet data transmission ended, transmission power is adjusted col 2 lines 23-28; Base station increases transmission power col 2, lines 42-43), (channel bandwidth used to transmit voice traffic col 2 lines 36-37).

It would have been obvious, to a person having ordinary skill in the art, at the time the invention was made to combine teachings of Chen with Denkert so that calls are not undesirably terminated.

Regarding **Claim 2**. Denkert further teaches *the packet data traffic in the step (a) is generated when the mobile station performs packet data communication including at least one of a wireless application protocol, a file transfer protocol or a hypertext transfer protocol* (conversational, streaming, interactive, background classes. Class traffic. Internet applications, WWW, E-mail, Telnet, FTP col 2 lines 13-23).

Regarding **Claim 3**. Denkert further teaches *if it is checked that there is no mobile station making use of the line service where the current call is in progress in the step (b), allocating current whole power to the mobile station making use of the packet data service* (Transmit power is controlled in the wireless packet network using received

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signal strength, path loss information, bit error rate data col 4 lines 45-54) (maximum transmit power available at the base station transceiver col 4 lines 61-62).

Regarding **Claim 4**. Denkert further teaches *if it is checked and there is the mobile station making use of the packet data service where the current call is in progress in the step (c), allocating current whole power to the mobile station making use of the packet data service* (Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54) (maximum transmit power available at the base station transceiver col 4 lines 61-62).

Regarding **Claim 5**. Denkert further teaches (transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54) (maximum transmit power available at the base station transceiver col 4 lines 61-62), but does not explicitly teach *the step of allocating the power to the mobile station making use of the packet data service allocates current remaining power to the mobile station making use of the packet data service at once*.

In the same field of endeavor, Chen teaches *the step of allocating the power to the mobile station making use of the packet data service allocates current remaining power to the mobile station making use of the packet data service at once* (power peak col 8 lines 22-23).

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It would have been obvious, to a person having ordinary skill in the art, at the time the invention was made to combine teachings of Chen with Denkert so that best QoS is provided.

Regarding **Claim 6**. Denkert further teaches (transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54) (maximum transmit power available at the base station transceiver col 4 lines 61-62), but does not explicitly teach *the step of allocating the power to the mobile station making use of the packet data service allocates current remaining power to the mobile station making use of the packet data service at once*.

In the same field of endeavor, Chen teaches *the step of allocating the power to the mobile station making use of the packet data service allocates current remaining power to the mobile station making use of the packet data service at once* (power peak col 8 lines 22-23).

It would have been obvious, to a person having ordinary skill in the art, at the time the invention was made to combine teachings of Chen with Denkert so that best QoS is provided.

Regarding **Claim 8**. Denkert further teaches (The delay threshold used in decision block 320 may be fixed, dependent on the QoS parameter, sensitive to packet delay, e.g. if average packet delay is guaranteed in the milliseconds range then this will be the

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selected system delay threshold col 5 lines 29-40), but does not explicitly teach *the preset period of time is 1.25 msec.*

In the same field of endeavor, Chen teaches

(Col 12 lines 29-31 power transmission window of 1.25 milliseconds) *the preset period of time is 1.25 msec.*

It would have been obvious, to a person having ordinary skill in the art, at the time the invention was made to combine teachings of Chen with Denkert so that best QoS is provided.

Regarding **Claim 9**. Denkert further teaches *the power allocation gradually increases the power transmitted to the mobile station making use of the packet data service by a same preset power magnitude at each preset period of time* (increasing power level in increments col 5 lines 26-27).

Regarding **Claim 10**. Denkert further teaches *the power allocation controls the power transmitted to the mobile station making use of the packet data service to be gradually increased at each preset period of time in a way that an increasing width of each step is gradually decreased as the period of time proceeds* (power control algorithm is a function of a delay variable Col 5 lines 18-20 depending on priority level power is increased by increments col 5 lines 25-28 delay time in transmitting packets leads to increasing transmitted power col 5 lines 40-48).

Regarding **Claim 11**. Denkert further teaches *gradually increasing power is increased up to a peak power which can be currently transmitted* (maximum transmit power available at the base station transceiver col 4 lines 61-62).

Regarding **Claim 12**. Denkert further teaches *gradually increasing power is increased up to a peak power which can be currently transmitted* (maximum transmit power available at the base station transceiver col 4 lines 61-62).

Regarding **Claim 33** Denkert teaches *a power allocation apparatus for providing a packet data service with a line service* (voice application col 2 lines 7-8) *in a mobile communication system over a mobile communication network having a base transceiver station for performing wireless communication with at least one mobile station, and a base station controller connected to a mobile switching center* (mobile calls routed by packet-switched col 1 lines 16-17) *and for controlling the base transceiver station, the power allocation apparatus* (power control circuit col 2 lines 41-42), *the base transceiver station* (base transceiver stations BTS col 4 line 18) *including an antenna* (Packets are then transmitted by the BTS 180 over the air interface col 4 line 25) *for performing wireless communication with the mobile station* (mobile station 620 col 7 line 8); *a transmission section* (base station 610 col 7 line 8 also see Fig. 6) *for performing wireless transmission by means of the antenna; a reception section* (packet data channel transceiver 650 col 7 line 20 also see Fig. 6) *for performing wireless reception by means of the antenna; a data reception section* (control and processing unit 630 also

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see Fig. 6) *for receiving data to be transmitted from the mobile communication network to the mobile station; a data processing section* (control and processing unit 630 also see Fig. 6) *for processing the data received through the data reception section in accordance with a predetermined algorithm* (evaluates the received control channel information col 7 lines 41-42); *a modulation section* (block 520 modulation col 6 lines 64-65 also see Fig. 5) *for modulating the data processed by the data processing section; and a power section* (base transceiver stations, the transceivers are transmitter/receivers which have a power supply section col 4 line 19) *for supplying/driving power to allow the data modulated by the modulation section to be transmitted* (transmitted by the BTS 180 col 4 line 25 also see Fig. 2) *through the antenna; and a control section* (packet data channel transceiver 650 would provide info on if there is packet data traffic col 7 line 20) *for checking whether or not there is the mobile station making use of the packet data service, and according to the checked result, controlling the power section to gradually regulate* (adapt the transmit power of each transceiver col 7 lines 34-35) *the power transmitted to the mobile station making use of the packet data service,*

the gradually regulated power is in a remaining power other than the power allocated to the line service (power control is used to adjust operations of the communication system col 2 lines 40-41, transmit power is ramped up to control link quality col 2 lines 45).

if new packet data traffic is generated (wireless packet data systems col 3 line 15) *after it is checked that there is no mobile station making use of the packet data service where*

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the current call is in progress (voice application col 2 lines 7-8), the control section controls the power section (power control col 2 line 40) to gradually increase power transmitted at each slot time (time slot in the downlink col 1 line 53) for a period of time to a mobile station which generates the new packet data traffic (power control is used to adjust operations of the communication system col 2 lines 40-41, Transmit power is ramped up to control link quality col 2 lines 45) which it takes a signal-to- interference ratio (carrier-to-interference ratio col 2 lines 38-39) of the mobile station to be restored to an original value (QoS level col 2 line 32) thereof when the power allocated to the mobile station making use of the line service is changed (power control used with C/I targets to ramp transmit power up or down for each link to control link quality col 2 lines 43-45) (Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54).

Denkert does not explicitly teach *waiting for end of packet transmission when a voice call is in progress, then increasing transmission power.*

In the same field of endeavor, Chen teaches *waiting for end of packet transmission when a voice call is in progress, then increasing transmission power* (packets of data are transmitted as discrete frames, when a frame is erased, packet data transmission ended, transmission power is adjusted col 2 lines 23-28; base station increases transmission power col 2, lines 42-43), (channel bandwidth used to transmit voice traffic col 2 lines 36-37).

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It would have been obvious, to a person having ordinary skill in the art, at the time the invention was made to combine teachings of Chen with Denkert so that calls are not undesirably terminated.

Regarding **Claim 34**. Denkert further teaches *the control section is provided to the base transceiver station* (base station 610 col 7 line 19).

Regarding **Claim 35**. Denkert further teaches *the control section is provided to the base station controller* (control unit 630 col 7 line 8).

Regarding **Claim 36**. Denkert further teaches *a packet scheduler* (packet data scheduler col 1 lines 46-47) *for receiving data transmitted from the mobile communication network to perform packet scheduling; a channel estimator* (carrier-to-interference ratio col 2 lines 38-39 noise and interference col 6 lines 16-17) *for estimating channels according to signals received through the reception section; a channel allocator* (a plurality of base transceiver stations each associated with a channel col 4 line 25) *for allocating communication channels; a power allocator* (power control 300 col 4 line 51) *for controlling the power section to allocate transmission power; and a coding and modulating selector* (appropriate modulation and coding scheme col 2 lines 34-35) *for performing coding and modulating of the data.*

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Regarding **Claim 38**. Denkert further teaches *the control section controls the power section to allocate current whole power* (maximum transmit power available at the base station transceiver col 4 lines 61-62) *to the mobile station making use of the packet data service* (Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54), *in the case where there is no mobile station making use of the line service where the current call is in progress when the packet data traffic is generated for the first time.*

Regarding **Claim 39**. Denkert further teaches *the control section controls the power section to allocate current whole power* (maximum transmit power available at the base station transceiver col 4 lines 61-62) *to the mobile station making use of the packet data service, in the case where there is the mobile station making use of the packet data service* (packet data communications in radio communication systems col 1 lines 7-8) *where the current call is in progress when the packet data traffic is generated for the first time* (First, the QoS attributes are evaluated at step 500 col 6 lines 57-58).

Regarding **Claim 40**. Denkert further teaches *the control section controls the power section to allocate current remaining power to the mobile station making use of the packet data service, in order to allocate the power to the mobile station making use of the packet data service* (Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54), but does not explicitly teach

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allocate power at once.

In the same field of endeavor, Chen teaches (power peak col 8 lines 22-23) *allocate power at once.*

It would have been obvious, to a person having ordinary skill in the art, at the time the invention was made to combine teachings of Chen with Denkert so that best QoS is provided.

Regarding **Claim 41**. Denkert further teaches *the control section controls the power section to allocate current remaining power to the mobile station making use of the packet data service, in order to allocate the power to the mobile station making use of the packet data service* (Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54), but does not explicitly teach

allocate power at once.

In the same field of endeavor, Chen teaches (power peak col 8 lines 22-23) *allocate power at once.*

It would have been obvious, to a person having ordinary skill in the art, at the time the invention was made to combine teachings of Chen with Denkert so that best QoS is provided.

Regarding **Claim 43**. Denkert further teaches (The delay threshold used in decision block 320 may be fixed, dependent on the QoS parameter, sensitive to packet delay.

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E.g. if average packet delay is guaranteed in the milliseconds range then this will be the selected system delay threshold col 5 lines 29-40), but does not explicitly teach *the control section controls the power section by setting the preset period of time to 1.25 msec.*

In the same field of endeavor, Chen teaches

(Col 12 lines 29-31 power transmission window of 1.25 milliseconds) *the control section controls the power section by setting the preset period of time to 1.25 msec.*

It would have been obvious, to a person having ordinary skill in the art, at the time the invention was made to combine teachings of Chen with Denkert so that best QoS is provided.

Regarding **Claim 45**. Denkert further teaches *the control section controls the power section to gradually increase the power transmitted to the mobile station (power control algorithm is a function of a delay variable Col 5 lines 18-20 depending on priority level power is increased by increments col 5 lines 25-28 delay time in transmitting packets leads to increasing transmitted power col 5 lines 40-48) making use of the packet data service at each preset period of time in a way that an increasing width of each step is gradually decreased as the preset period of time proceeds.*

Regarding **Claim 47**. Denkert further teaches *the control section controls the power section to cause the gradually increasing power to be increased up to a peak power*

(maximum transmit power available at the base station transceiver col 4 lines 61-62)
which can be currently transmitted.

6. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Denkert, in view of Chen as applied to claim 45 above, and further in view of Richards (USP 7209724).

Regarding **Claim 46**. Denkert further teaches *the control section controls the power section to cause the increasing width to be gradually decreased as the preset period of time proceeds so as for the power transmitted to the mobile station (power control algorithm is a function of a delay variable Col 5 lines 18-20 depending on priority level power is increased by increments col 5 lines 25-28 delay time in transmitting packets leads to increasing transmitted power col 5 lines 40-48) making use of the packet data service.*

Denkert does not explicitly teach *increase power in exponential proportion.*

In the same field of endeavor, Richards teaches *increase power in exponential proportion (col 33 lines 25-30).*

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Richards's teachings with Denkert's teachings to provide optimal power management in a radio communication system.

Response to Arguments

7. Applicant's arguments with respect to claims 1, 33 have been considered but are moot in view of the new ground(s) of rejection.

8. The main argument on pages 9-13 is that the references do not disclose the newly amended limitation: *"if new packet data traffic is generated after it is checked that there is no mobile station making use of the packet data service where the current call is in progress, the control section controls the power section to gradually increase power transmitted at each slot time for a period of time to a mobile station which generates the new packet data traffic which it takes a signal-to- interference ratio of the mobile station to be restored to an original value thereof when the power allocated to the mobile station making use of the line service is changed."* Examiner respectfully disagrees. An analysis of this claim follows:

9. The claimed limitations are as follows: A) *current call is in progress*, B) *no mobile station making use of the packet data service*, C) *new packet data traffic is generated*, D) *control section controls the power section to gradually increase power transmitted at each slot time for a period of time to a mobile station which generates the new packet data traffic*, D) i) *signal-to- interference ratio restored to an original value*, E) *power allocated to the mobile station making use of the line service is changed*.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Denkert teaches (voice application col 2 lines 7-8) limitation A, (wireless packet data systems col 3 line 15) limitation C. A person having ordinary skill in the art knows that when both voice and data are supported in a system, the following states exist: state a: voice, no data; state b: voice; data; state c: no voice, data; state d: no voice, no data. The system would transition from any state to any other state depending upon the user action; e.g., initiating a call or downloading a web page – or ending a call or the completion of the download of a web page. The limitations A and B and C, above, are related to the transition from state a (voice, no data) {limitations A and B} to state b (voice; data) {limitation C}.

12. Denkert further teaches {limitation D} *control section controls the power section (power control col 2 line 40) to gradually increase power transmitted at each slot time (time slot in the downlink col 1 line 53) for a period of time to a mobile station which generates the new packet data traffic* (power control is used to adjust operations of the communication system col 2 lines 40-41, Transmit power is ramped up to control link quality col 2 lines 45).

13. Denkert further teaches {limitation D) i) } *signal-to- interference ratio (carrier-to- interference ratio col 2 lines 38-39) restored to an original value (QoS level col 2 line 32).*

14. Denkert further teaches {limitation E} *power allocated to the mobile station making use of the line service* (specification definition p1 lines 20-21: line service refers

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to a real-time service, such as a voice service, a video service) *is changed* (power control used with C/I targets to ramp transmit power up or down for each link to control link quality col 2 lines 43-45) (Transmit power is controlled in the wireless packet network using received signal strength, path loss information, bit error rate data col 4 lines 45-54).

15. The 35 U.S.C. 103(a) which forms the basis for all obviousness rejections recites: though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

16. The above analysis shows that the combination of the prior art teachings and the knowledge of a person having ordinary skill in the art, at the time of the invention, describes the invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hooman Houshmand whose telephone number is (571)270-1817. The examiner can normally be reached on Monday - Friday 8am - 5pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571)272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. H./
Examiner, Art Unit 2419

/Hassan Kizou/
Supervisory Patent Examiner, Art Unit 2419